

## CYSE 270: Linux System for Cybersecurity

### Lab 8 – Shell Scripting

(Total 100 Points)

Please refer to the slides for **week 8 - Shell scripting** and write shell scripts to complete the following tasks. **Submit the screenshot for the script and its output, both.**

**NOTE:** Please replace the name of the script with the name you used for the script. In the sample screenshot, I have used those names to create my script.

**Step-1:** Use vi or nano editor to write your script (Ex, **vi YourScriptName.sh**) for the following tasks.

**Step-2:** After saving the script, **save and exit out of the editor** and make the script executable by adding execute permission ( **chmod +x YourScriptName.sh**)

**Step-3:** Run your script using **./YourScriptName.sh**

#### **Task A (Correct script (25 points) + result/output after executing the script (25 points)- Conditional Statement**

Write a shell script using nano or vi editor (eg, vi scriptname.sh) like below, that performs the following task:

1. Add the **Shebang** (**#!/bin/bash**) as the first line in your script.
2. **Read** a number using **read** function
3. Using **if statement**, check if the input number is greater than 10, then print the message **“Input number is greater than 10”**.
4. If the number is not greater than 10, then print the message, **“Input number is not greater than 10”**.

(Your script should result into the output similar to this sample screenshot after executing as shown below)

```
(cyse270@CYSE270)-[~]  
$ ./TaskA.sh  
Enter the number to check:  
9  
Input number is not greater than 10.  
  
(cyse270@CYSE270)-[~]  
$ ./TaskA.sh  
Enter the number to check:  
11  
Input number is greater than 10.
```

**Task B (Correct script (25 points) + result/output after executing the script (25 points) - Shell Script to Create a new file**

Write a shell script using nano or vi editor (eg, nano scriptname.sh) like below, that performs the following task:

1. Add the **Shebang** (`#!/bin/bash`) as the first line in your script.
2. **Reads** the **name** of the file to check for a filename that exists.
3. Check whether the given input is a directory or regular file.
4. If the input is a directory and exists, then display the message “**Directory exists**”.
5. If the input is a regular file, then display the message “**It is a regular file, and the file exists**” and display the contents of the file.
6. **If the given input name in step-1 doesn't exist**, then create the new file with the given name in step-1.

**(Extra credit: 10 points)** Add your name to the file (using redirection operator '>') and display the contents for the newly created file.

7. Save and exit the editor and remember to make the script executable using the command **chmod +x scriptname.sh**)

(Your script should result into the output similar to this sample screenshot after executing as shown below)

```
(cyse270@CYSE270)-[~/Desktop]
$ ./TaskB_withExtra.sh
Enter the filename to check:
test.txt
It is a regular file, and the file exists
(cyse270@CYSE270)-[~/Desktop]
$ ./TaskB_withExtra.sh
Enter the filename to check:
lab8_example.txt
It is a regular file, and the file exists
The contents of the file are:
Mohammed Al kinoon!
```

### Extra Credit (15 points)- Check Directory

Write a script like below that

1. Reads Two variables- your name and the name of the directory as input.
2. Your script should check for the validity of the given directory name, if the entered filename is a directory, then display its contents
3. If the directory doesn't exist, then print an error message "Sorry, the entered directory name is not a valid directory name."
4. You need to execute your script and test the following directories to test with your script
  - /etc/systemd
  - /home
  - A directory that does not exist

Display the contents for the directories you have entered

(See the screenshot below where the script has been executed 3 times to check for the Three different directory names as the test input)

```
(cyse270@CYSE270)-[~/Desktop]
$ ./lab8_extra_credit.sh
Enter your name:
Mohammed
Enter the directory name to check:
/etc/systemd
Hello, Mohammed. The contents of the directory '/etc/systemd' are:
journald.conf logind.conf network networkd.conf pstore.conf sleep.conf system system.conf timesyncd.conf user user.conf
```

```
(cyse270@CYSE270)-[~/Desktop]
$ ./lab8_extra_credit.sh
Enter your name:
Mohammed
Enter the directory name to check:
/home
Hello, Mohammed. The contents of the directory '/home' are:
bob cyse270 data julia susan
```

```
(cyse270@CYSE270)-[~/Desktop]
```

```
$ ./lab8_extra_credit.sh
```

```
Enter your name:
```

```
Mohammed
```

```
Enter the directory name to check:
```

```
/fake_directory
```

```
Sorry, the entered directory name is not a valid directory name.
```